AMENDMENTS TO THE CLAIMS

Claims 1-17 are currently pending, of which claims 9, 10, and 13-17 are withdrawn.

Claims 1, 2, 11 and 12 are being amended. New claims 18-62 are being added.

After the amendments, claims 1-62 will be pending, of which claims 9, 10, and 13-17 are withdrawn.

This listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently amended) An isolated nucleic acid ~~of any one of (a) to (d) below:~~

~~(a) a nucleic acid~~ encoding a ~~protein~~ polypeptide comprising the amino acid sequence of SEQ ID NO:2~~,~~

~~(b) a nucleic acid comprising a coding region in the nucleotide sequence of SEQ ID NO:1,~~

~~(c) a nucleic acid encoding a protein that comprises the amino acid sequence of SEQ ID NO:2, in which one or more amino acids are replaced, deleted, inserted and/or added and that is functionally equivalent to the protein comprising the amino acid sequence of SEQ ID NO:2, and~~

~~(d) a nucleic acid that hybridizes under stringent conditions with the nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, and that encodes a protein functionally equivalent to the protein comprising the amino acid sequence of SEQ ID NO:2~~.

2. (Currently amended) An isolated nucleic acid encoding the amino acid sequence of SEQ ID NO:2 or a fragment thereof having a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

3. (Original) A vector into which the nucleic acid of claim 1 is inserted.

4. (Original) A vector into which the nucleic acid of claim 2 is inserted.

5. (Original) A transformant harboring the nucleic acid of claim 1.

6. (Original) A transformant harboring the nucleic acid of claim 2.

7. (Original) A transformant harboring the vector of claim 3.

8. (Original) A transformant harboring the vector of claim 4.

9. (Withdrawn) A substantially purified polypeptide encoded by the nucleic acid of claim 1.

10. (Withdrawn) A substantially purified polypeptide encoded by the nucleic acid of claim 2.

11. (Currently amended) A method for producing a polypeptide, the method comprising the steps of culturing the transformant of claim 7 and recovering, ~~a polypeptide expressed~~ from the transformant or the culture supernatant thereof, the polypeptide that comprises SEQ ID NO:2.

12. (Currently amended) A method for producing a polypeptide, the method comprising the steps of culturing the transformant of claim 8 and recovering, ~~a polypeptide expressed~~ from the transformant or the culture supernatant thereof, the polypeptide comprising SEQ ID NO:2 or a fragment thereof that has a function associated with the maintenance of differentiation of smooth muscle cells.

13. (Withdrawn) An antibody against the polypeptide of claim 9.

14. (Withdrawn) An antibody against the polypeptide of claim 10.

15. (Withdrawn) A polynucleotide that hybridizes with the nucleic acid comprising the nucleotide sequence of SEQ ID NO:1 or the complementary strand thereof and that comprises at least 15 nucleotides.

16. (Withdrawn) A method for screening for a compound that binds to the polypeptide of claim 9, the method comprising the steps of:

(a) contacting a test sample with the polypeptide or a partial peptide thereof,

(b) detecting a binding activity of the test sample to the polypeptide or the partial peptide thereof, and

(c) selecting a compound comprising the binding activity to the polypeptide or the partial peptide thereof.

17. (Withdrawn) A method for screening for a compound that binds to the polypeptide of claim 10, the method comprising the steps of:

(a) contacting a test sample with the polypeptide or a partial peptide thereof,

(b) detecting a binding activity of the test sample to the polypeptide or the partial peptide thereof, and

(c) selecting a compound comprising the binding activity to the polypeptide or the partial peptide thereof.

18. (New) The nucleic acid of claim 1 wherein the polypeptide consists of SEQ ID NO:2.

19. (New) An isolated nucleic acid comprising the coding sequence of SEQ ID NO:1.

20. (New) A vector comprising the nucleic acid of claim 19.

21. (New) A transformant harboring the nucleic acid of claim 19.

22. (New) A transformant harboring the vector of claim 20.

23. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 22 and recovering, from the transformant or the culture supernatant thereof, the polypeptide that comprises the encoded sequence of SEQ ID NO:1.

24. (New) An isolated nucleic acid encoding a polypeptide that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted, wherein said polypeptide has a function associated with the maintenance of differentiation of smooth muscle cells equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

25. (New) The nucleic acid of claim 24, wherein up to 5 amino acids are replaced, deleted, and/or inserted in the polypeptide.

26. (New) A vector comprising the nucleic acid of claim 24.

27. (New) A transformant harboring the nucleic acid of claim 24.

28. (New) A transformant harboring the vector of claim 26.

29. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 28 and recovering, from the transformant or the culture supernatant thereof, the polypeptide that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted.

30. (New) An isolated nucleic acid that hybridizes after washing with 0.1xSSC and 0.1% SDS at 65°C with the nucleic acid consisting of the nucleotide sequence of SEQ ID NO:1, and that encodes a polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

31. (New) A vector comprising the nucleic acid of claim 30.

32. (New) A transformant harboring the nucleic acid of claim 30.

33. (New) A transformant harboring the vector of claim 31.

34. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 33 and recovering, from the transformant or the culture supernatant thereof, the polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells.

35. (New) An isolated nucleic acid encoding a polypeptide that comprises an amino acid sequence at least 95% identical to SEQ ID NO:2, wherein the polypeptide has a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of SEQ ID NO:2.

36. (New) The nucleic acid of claim 35 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:2.

37. (New) A vector comprising the nucleic acid of claim 35.

38. (New) A transformant harboring the nucleic acid of claim 35.

39. (New) A transformant harboring the vector of claim 37.

40. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 39 and recovering, from the transformant or the culture supernatant thereof, the polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells.

41. (New) An isolated nucleic acid encoding an oxidoreductase comprising the amino acid sequence of SEQ ID NO:2 or a fragment thereof.

42. (New) A vector comprising the nucleic acid of claim 41.

43. (New) A transformant harboring the nucleic acid of claim 41.

44. (New) A transformant harboring the vector of claim 42.

45. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 44 and recovering the oxidoreductase from the transformant or the culture supernatant thereof.

46. (New) An isolated nucleic acid encoding an oxidoreductase that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted.

47. (New) The nucleic acid of claim 46, wherein up to 5 amino acids are replaced, deleted, and/or inserted in the oxidoreductase.

48. (New) A vector comprising the nucleic acid of claim 46.

49. (New) A transformant harboring the nucleic acid of claim 46.

50. (New) A transformant harboring the vector of claim 48.

51. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 50 and recovering the oxidoreductase from the transformant or the culture supernatant thereof.

52. (New) An isolated nucleic acid that hybridizes after washing with 0.1xSSC and 0.1% SDS at 65°C with the nucleic acid consisting of the nucleotide sequence of SEQ ID NO:1, and that encodes an oxidoreductase.

53. (New) A vector comprising the nucleic acid of claim 52.

54. (New) A transformant harboring the nucleic acid of claim 52.

55. (New) A transformant harboring the vector of claim 53.

56. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 55 and recovering the oxidoreductase from the transformant or the culture supernatant thereof.

57. (New) An isolated nucleic acid encoding an oxidoreductase that comprises an amino acid sequence at least 95% identical to SEQ ID NO:2.

58. (New) The nucleic acid of claim 57 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:2.

59. (New) A vector comprising the nucleic acid of claim 57.

60. (New) A transformant harboring the nucleic acid of claim 57.

61. (New) A transformant harboring the vector of claim 59.

62. (New) A method for producing a polypeptide, comprising the steps of culturing the transformant of claim 61 and recovering the oxidoreductase from the transformant or the culture supernatant thereof.